

## Appendix G: Tunneling Costs

## Tunneling Unit Costs

Description	Unit	Tabula 9/05 cost based Seattle ENR CCI Index	Recommended Costs for input into Tabula	Resource Comparisons		
				Discussion w/ Bill Austell FCC of Tunnel Costs	Louisiana Tech Trenchless Technology Report Mid 2002	Mercer Street Tunnel 9/99
Escalation/Location Factors		1.176			1.108	1.209
<b>TBM Costs</b>						
8 ' Tunnel ID						
TBM Fixed Cost	LS	\$1,760,000	<b>\$2,000,000</b>	\$2,250,000		
Tunnel Cost (\$/inch-diameter/lf)	\$/LF	\$2,400	<b>\$2,200</b>	\$2,000	\$1,020	
9 ' Tunnel ID						
TBM Fixed Cost	LS	\$2,120,000	<b>\$2,500,000</b>	\$2,700,000		
Tunnel Cost (\$/inch-diameter/lf)	\$/LF	\$2,300	<b>\$2,200</b>	\$1,950	\$1,100	
10 ' Tunnel ID						
TBM Fixed Cost	LS	\$2,350,000	<b>\$2,750,000</b>	\$3,000,000		
Tunnel Cost (\$/inch-diameter/lf)	\$/LF	\$2,300	<b>\$2,200</b>	\$1,950	\$1,190	
11 ' Tunnel ID						
TBM Fixed Cost	LS	\$2,700,000	<b>\$3,000,000</b>	\$3,450,000		
Tunnel Cost (\$/inch-diameter/lf)	\$/LF	\$2,400	<b>\$2,200</b>	\$2,000	\$1,290	
12 ' Tunnel ID						
TBM Fixed Cost	LS	\$2,940,000	<b>\$3,500,000</b>	\$3,750,000		
Tunnel Cost (\$/inch-diameter/lf)	\$/LF	\$2,600	<b>\$2,400</b>	\$2,200	\$1,400	
13 ' Tunnel ID						
TBM Fixed Cost	LS	\$3,170,000	<b>\$3,750,000</b>	\$4,050,000		
Tunnel Cost (\$/inch-diameter/lf)	\$/LF	\$2,800	<b>\$2,600</b>	\$2,400	\$1,520	
14 ' Tunnel ID						
TBM Fixed Cost	LS	\$3,530,000	<b>\$4,000,000</b>	\$4,500,000		\$5,000,000
Tunnel Cost (\$/inch-diameter/lf)	\$/LF	\$2,900	<b>\$2,700</b>	\$2,500	\$1,650	\$1,911
15 ' Tunnel ID						
TBM Fixed Cost	LS	\$3,880,000	<b>\$4,500,000</b>	\$4,950,000		
Tunnel Cost (\$/inch-diameter/lf)	\$/LF	\$3,200	<b>\$2,900</b>	\$2,700	\$1,790	
16 ' Tunnel ID						
TBM Fixed Cost	LS	\$4,230,000	<b>\$5,000,000</b>	\$5,400,000		
Tunnel Cost (\$/inch-diameter/lf)	\$/LF	\$3,400	<b>\$3,200</b>	\$2,900	\$1,940	
18 ' Tunnel ID						
TBM Fixed Cost	LS	\$4,700,000	<b>\$5,500,000</b>	\$6,000,000		
Tunnel Cost (\$/inch-diameter/lf)	\$/LF	\$3,600	<b>\$3,400</b>	\$3,100	\$2,260	

## Trenchless Technology Dewatering Costs

Description	Unit	Tabula 9/05 cost based Seattle ENR CCI Index	Recommend ed Costs for input into Tabula	Resource Comparisons				
				Trench Sump Dewatering (2- 6" pumps attended)	Well Installation 40ft depth	Wellpoint Inst & Rmv per LF	Wellpoint Pump Operation	Tacoma P-5 Pipeline 8/02
Daily Rate				\$1,271			\$1,682	
Additional Pumps				\$157				
Lineal Foot Cost to Install					\$2,000	\$50		
<b><u>Tunneling Dewatering</u></b>								
<1,000 ft length								
Standard Dewatering		\$47,022.56	<b>\$50,000</b>					
Significant Dewatering		\$70,533.84	<b>\$70,000</b>					
1,000 to 5,000 ft length								
Standard Dewatering		\$52,900.38	<b>\$55,000</b>					
Significant Dewatering		\$82,289.48	<b>\$80,000</b>					
5,000 to 10,000 ft length								
Standard Dewatering		\$58,778.20	<b>\$60,000</b>					
Significant Dewatering		\$105,800.76	<b>\$105,000</b>					
>10,000 ft length								
Standard Dewatering		\$70,533.84	<b>\$70,000</b>					
Significant Dewatering		\$117,556.40	<b>\$120,000</b>					